

# Math 131-H – Honors Calculus I – Syllabus

Fall 2019

**Instructor** – Chris Elliott

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- Office Hours: Wednesday 1:30 – 3:30, Thursday 11:00 – 12:00 in LGRT 1124

**Teaching Assistant** – Yulia Suvorova

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- Office Hours: Tuesday 11:00 – 12:00, Wednesday 9:00 – 11:00 in LGRT 857

## Course Description

### What we'll cover

- How to think about infinity and the infinitesimal: the idea of a limit.
- How to think about rates of change: the derivative.
- Using derivatives to understand how functions behave, e.g. finding their maxima and minima, and their behavior at infinity, and conveying this information graphically.
- How to use these ideas in real-world and scientific applications.
- How to find areas using integration.

### What I assume you've seen before

- The idea of a function.
- The number line: integers, fractions, and irrational numbers.
- Algebraic manipulations including working with fractions, logarithms, and exponents.
- Properties of, and computational rules for, trigonometric functions  $\sin(x)$ ,  $\cos(x)$ ,  $\tan(x)$ .
- Graphs of basic functions like  $\sin(x)$ ,  $\cos(x)$ ,  $e^x$ ,  $\log(x)$ ,  $1/x$ , polynomials.

## Schedule

There are two sections of 131-H meeting at the following times:

- **Section 01:** Tuesday and Thursday 1:00–2:15 in LGRT 173.
- **Section 02:** Tuesday and Thursday 2:30–3:45 in LGRT 173.

There will also be a TA led problem session, where you'll have the opportunity to ask questions, work through examples, and work together on worksheets designed to test your understanding. These worksheets will be graded on completion only.

- **Section 01:** Friday 9:05–9:55 in LGRT 173.
- **Section 02:** Friday 10:10–11:00 in LGRT 173.

The first problem sessions will be on Friday, September 6th.

There will be two mid-terms and a final: both sections will take the exams together.

- **Midterm 1:** Friday October 4th during section.
- **Midterm 2:** Friday November 8th during section.
- **Final:** Monday December 16th 1:00-3:00 in Integ. Learning Center S331.

## Class Materials

- We'll use the textbook **Calculus: Early Transcendentals** by James Stewart. We'll cover most of the material from Section 2.1 to Section 5.2 in this class.
- You'll need to purchase access to the Enhanced WebAssign system. This includes an electronic copy of the textbook. To purchase access the WebAssign, go to <https://umass.ecampus.com/course-list.asp?autocourselist=1&c=|3200654&s=139620>. If you're planning on continuing on to take Math 132 or 233, these courses use the same textbook and WebAssign system, so you won't need to purchase the book again.
- If you want to buy a physical copy of the textbook, you can do that from the same link: there's a loose leaf option and a hardcover option. If you choose to buy the hardcover version of the textbook, make sure to purchase WebAssign access as well.
- In addition to the instructor and TA office hours (listed at the top of the syllabus) you can take advantage of the **Calculus Tutoring Center**, located in LGRT 140. For information on opening hours, go to <https://www.math.umass.edu/undergraduate/learning-resources/tutoring-centers>. This is a great additional resource for small group tutoring.

## Assessment Structure

- **WebAssign homework (15%):** To be completed online. Due every Friday at 5pm. Access using the following class keys.
  - Section 01: umass 0559 6485
  - Section 02: umass 0174 2265.
- **Honors homework (10%):** These are designed to be more interesting exercises, and not just routine calculations. They will be assigned after class on Tuesday every other week, and due in class the following Tuesday. When calculating your grade, I will drop the lowest homework score.
- **Worksheets (10%):** You'll complete these in small groups during the problem session. They will be graded on completion only, so make sure you make an attempt at all of the problems. When calculating your grade, I will drop the lowest worksheet score.
- **Midterm exams (x2) (20% each):** Please inform me of any documented conflicts with the exam time by e-mail *as soon as possible*. The exams are closed book, and a calculator is not allowed.
- **Final exam (25%):** Again, please inform me of any documented conflicts with the exam time by e-mail *as soon as possible*. The exams are closed book, and a calculator is not allowed.

## Academic Honesty

*Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. The procedures outlined below are intended to provide an efficient and orderly process by which action may be taken if it appears that academic dishonesty has occurred and by which students may appeal such actions. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent. For more information about what constitutes academic dishonesty, please see the Dean of Students website: [http://umass.edu/dean\\_students/codeofconduct/acadhonesty/](http://umass.edu/dean_students/codeofconduct/acadhonesty/).*

## Accommodations

*The University of Massachusetts Amherst is committed to making reasonable, effective and appropriate accommodations to meet the needs of students with disabilities and help create a barrier-free campus. If you are in need of accommodation for a documented disability, register with Disability Services to have an accommodation letter sent to your faculty. It is your responsibility to initiate these services and to communicate with faculty ahead of time to manage accommodations in a timely manner. For more information, consult the Disability Services website at <http://www.umass.edu/disability/>.*